Spring 2022 EE214 Experiment 2
Miscellaneous Op-Amp Circuits

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Contents

1 Introduction

In this experiment, miscellaneous op-amp circuits, three different setups of op-amp circuity are investigated. First, an independent current source circuit is set and its behavior is required to be characterized. Then the clipper circuit is constructed, and the output is needed to be observed. Lastly, a negative resistance converter with two zener is built with two different setups. First, its i-v characteristics are expected to be observed, then a square wave generator is expected to be set.

2 Experimental Results and Discussion

The results of the experiment are discussed in the following steps.

2.1 Step 1

In this step independent current source circuit given in Figure 1 is constructed. A potentiometer with 10KΩ is connected to the one port as R_L.

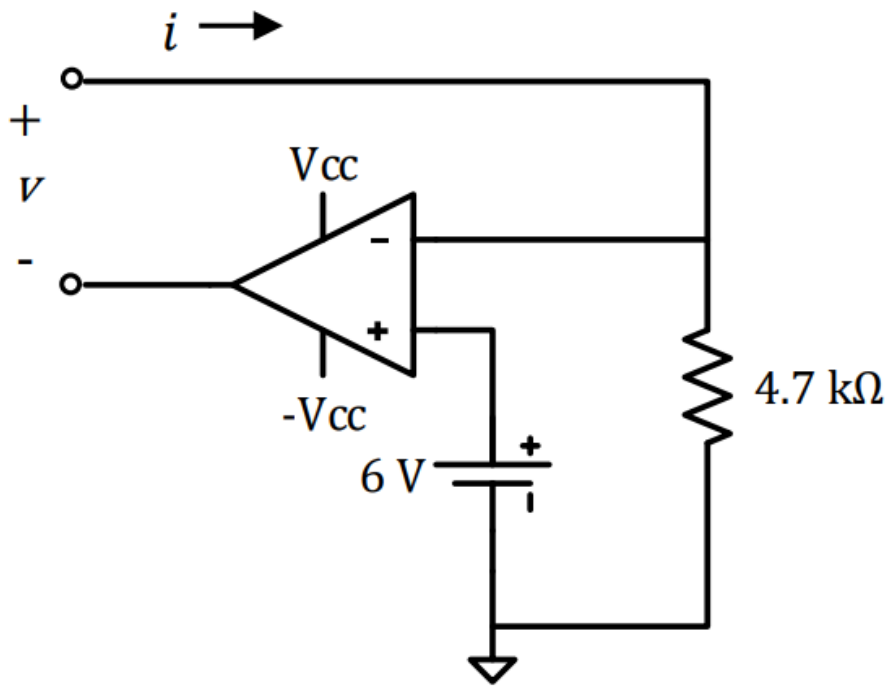

Figure 1: Circuit schematic for the step 1

To be able to obtain the maximum value of the resistance in which the one port still functions as a independent current source, the potentiometer is meticulously adjusted. So , the parameters given in Figure 1 is obtained.

Table 1: Resistance reading by color code convention.

The Current Value	Corresponding Resistance
1.24 mA	8kΩ

2.2 Step 2

In this step the

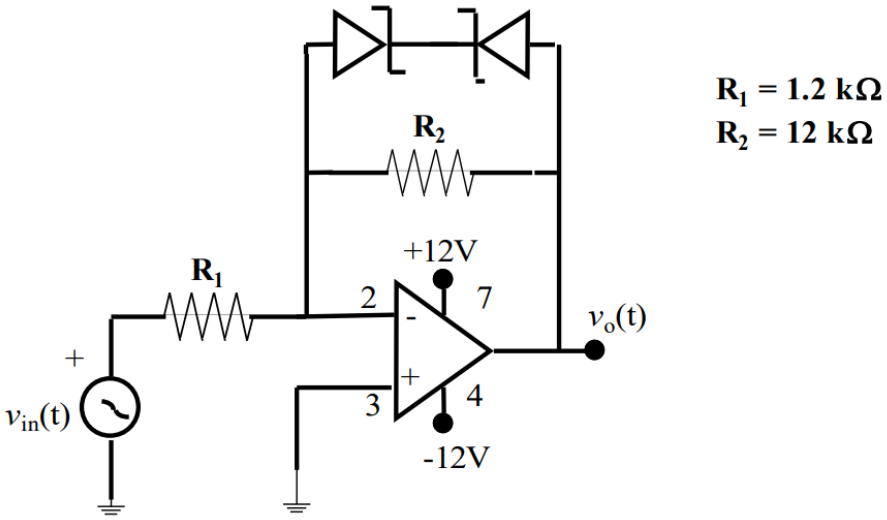

Figure 2: Circuit schematic for the step 2

2.3 Step 3

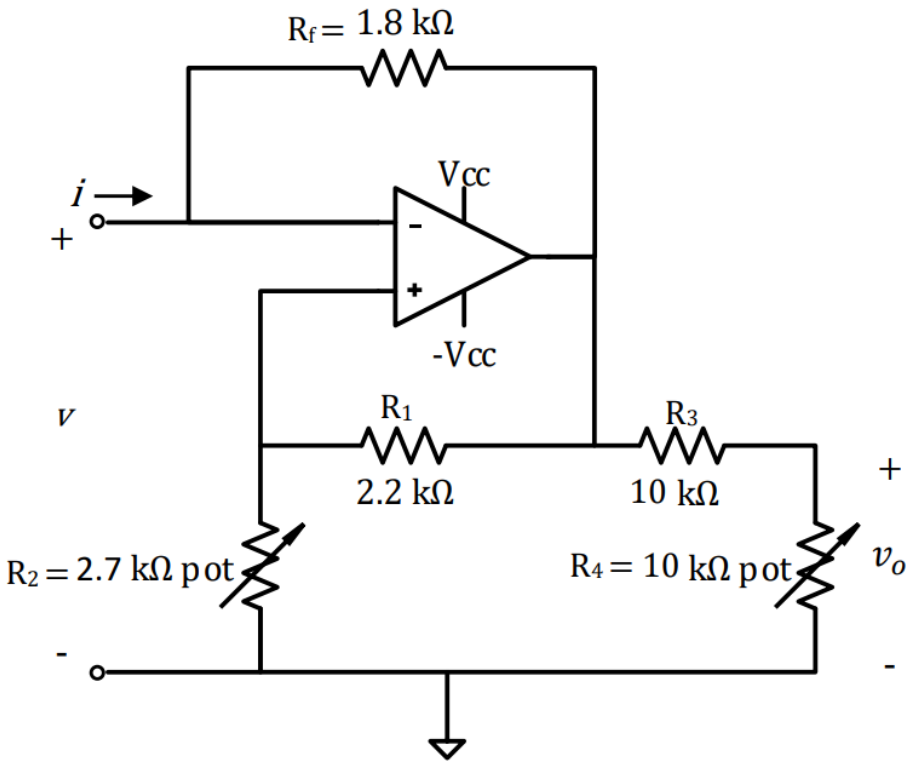

Figure 3: Circuit schematic for the step 3

2.3.1 a)

2.3.2 b)

3 Conclusion

Appendix A

- PreLab Preparation 4 hours
- Experimental Work 2 hours
- Report Writing 4 hours